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FORM PTO-1449U.S.		DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. MEGAN 100 CIP	SERIAL NO. 08/781,769	GROUP 2500
MATERIAL INFORMATION SHEET (Use several sheets if necessary)					
		APPLICANT Roy Curtiss, III and Steven A. Tinge			
		FILING DATE December 6, 1996	GROUP		

U.S. PATENT DOCUMENTS

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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Inc.)

VR	AR	Arthur, M. et al., "Characterization of Tn1546, a Tn3-related transposon conferring glycopeptide resistance by synthesis of depsipeptide peptidoglycan precursors in Enterococcus faecium BM4147", <i>J Bacteriol</i> 175(1):117-27 (January, 1993)
VR	AS	Baril, C. et al., "Cloning of dapD, aroD and aroD of <i>Leptospira interrogans</i> serovar icterohaemorrhagiae, and nucleotide sequence of the aroD gene", <i>J Gen Microbiol</i> 138(Pt 1):47-53 (January, 1992)
VR	AT	Begg, KJ. et al., "A new <i>Escherichia coli</i> cell division gene, ftsK", <i>J Bacteriol</i> 177(21):6211-22 (November, 1995)

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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Inc.)					
VR	AR		Bouloc, P, et al., "The Escherichia coli lov gene product connects peptidoglycan synthesis, ribosomes and growth rate", <i>EMBO</i> 8(1):317-23 (January, 1989)		
VR	AS		Bouvier, J, et al., "Nucleotide sequence and expression of the Escherichia coli dapB gene", <i>J Biol Chem</i> 259(23):14829-34 (December 10, 1984)		
VR	AT		Brown, ED, et al., "MurA (MurZ), the enzyme that catalyzes the first committed step in peptidoglycan biosynthesis, is essential in Escherichia coli", <i>J Bacteriol</i> 177:(14):4194-7 (July, 1995)		
VR	AR		Bugg, TD, et al., "Molecular basis for vancomycin resistance in <i>Enterococcus faecium</i> BM4147: biosynthesis of a depsipeptide peptidoglycan precursor by vancomycin resistance proteins VanH and VanA", <i>Biochemistry</i> 30(43):10408-15 (October 29, 1991)		
VR	AS		Buist, G, et al., "Molecular cloning and nucleotide sequence of the gene encoding the major peptidoglycan hydrolase of <i>Lactococcus lactis</i> , a muramidase needed for cell separation", <i>J Bacteriol</i> 177:(6):1554-63 (March, 1995)		
VR	AT		Cardineau and Curtiss, "Nucleotide Sequence of the <i>asd</i> Gene of <i>Streptococcus Mutans</i> ," <i>The Journal of Biological Chem.</i> , 262(7):3344-3353 (1987)		
VR	AR		Chakraborti, AS, et al., "Accumulation of a murein-membrane attachment site fraction when cell division is blocked in <i>lkyD</i> and <i>cha</i> mutants of <i>Salmonella typhimurium</i> and <i>Escherichia coli</i> ", <i>J Bacteriol</i> 168(3):1422-9 (December, 1986)		
VR	AS		Chen, NY, et al., "Organization and nucleotide sequence of the <i>Bacillus subtilis</i> diaminopimelate operon, a cluster of genes encoding the first three enzymes of diaminopimelate synthesis and dipicolinate synthase", <i>J Biol Chem</i> 268(13):9448-65 (May 5, 1993)		
VR	AT		Cirillo, JD, et al., "Genetic determination of the meso-diaminopimelate biosynthetic pathway of mycobacteria", <i>J Bacteriol</i> 176:(14):4424-9 (July, 1994)		
VR	AR		Collins, MD, et al., "Phylogenetic analysis of a new LL-diaminopimelic acid-containing coryneform bacterium from herbage, <i>Nocardioides plantarum</i> sp. nov.", <i>Int J Syst Bacteriol</i> 44:(3):523-6 (July, 1994)		
VR	AS		Contreras, A., et al., "Conditional-Suicide Containment System for Bacteria Which Mineralize Aromatics," <i>Applied and Environmental Microbiology</i> , 57(5):1504-1508 (May, 1991)		
VR	AT		Curtiss, R., et al., "Live Oral Avirulent <i>Salmonella</i> Vaccines," <i>Veterinary Microbiology</i> 37:376-405 (1993)		
VR	AR		Curtiss, R., et al., "Nonrecombinant and Recombinant Avirulent <i>Salmonella</i> Vaccines," <i>Recombinant and Synthetic Vaccines</i> , 340-351 (Narosa Publishing House, G.P. Talwar et al. Eds. 1994)		
VR	AS		Curtiss, R., et al., "Nonrecombinant and Recombinant Avirulent <i>Salmonella</i> Live Vaccines for Poultry," <i>Colonization Control of Human Bacterial Enteropathogens in Poultry</i> , 169-198 (Academic Press, Inc., 1991)		
VR	AT		Curtiss and Tinge, "Recombinant Avirulent <i>Salmonella</i> Vaccines and Prospects for an Antifertility Vaccine," <i>Local Immunity in Reproductive Tract Tissues</i> , pp459-476 (Oxford University Press, Griffin & Johnson, eds., 1993)		
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VR	AR	Curtiss, R 3d, et al., "Stabilization of recombinant avirulent vaccine strains in vivo", <i>Res Microbiol</i> 141(7-8):797-805 (September-October, 1990)
VR	AS	Dai, D, et al., "murH, a new genetic code locus in <i>Escherichia coli</i> involved in cell wall peptidoglycan biosynthesis", <i>J Bacteriol</i> 170(5):2197-201 (May, 1988)
VR	AT	de Jonge, BL, et al., "Altered muropeptide composition in <i>Staphylococcus aureus</i> strains with an inactivated femA locus", <i>J Bacteriol</i> 175(9):2779-82 (May, 1993)
VR	AR	*Degryse, E, "Stability of a host-vector system based on complementation of an essential gene in <i>Escherichia coli</i> ", <i>J Biotechnol</i> 18:(1-2):29-39 (April, 1991)
VR	AS	Degryse, E, "Development of stable, genetically well-defined conditionally viable <i>Escherichia coli</i> strains", <i>Mol Gen Genet</i> 227:(1):49-51 (May, 1991)
VR	AT	Deich, RA, et al., "Cloning of genes encoding a 15,000-dalton peptidoglycan-associated outer membrane lipoprotein and an antigenically related 15,000-dalton protein from <i>Haemophilus influenzae</i> ", <i>J Bacteriol</i> 170:(2):489-98 (February, 1988)
VR	AR	Doggett, T., et al., "Immune Responses to SpaA-Expressing Recombinant <i>Salmonella</i> ," <i>Infect. Immun.</i> , 61:1859-1866 (1993)
VR	AS	Doublet, P, et al., "The murl gene of <i>Escherichia coli</i> is an essential gene that encodes a glutamate racemase activity", <i>J Bacteriol</i> 175:(10):2970-9 (May, 1993)
VR	AT	Evers, S, et al., "Sequence of the vanB and ddl genes encoding D-alanine:D-lactate and D-alanine:D-alanine ligases in vancomycin-resistant <i>Enterococcus faecalis</i> V583", <i>Gene</i> 140:(1):97-102 (March 11, 1994)
VR	AR	Fralick, JA, et al., "Studies on the expression of outer membrane protein 2 in <i>escherichia coli</i> ", <i>Mol Gen Genet</i> 188:(1):139-42 (1982)
VR	AS	Fuqua, WC, et al., "Quorum sensing in bacteria: the LuxR-LuxI family of cell density-responsive transcriptional regulators", <i>J Bacteriol</i> 176:(2):269-75 (January, 1994)
VR	AT	Galan, JE, et al., "Cloning and characterization of the asd gene of <i>Salmonella typhimurium</i> : use in stable maintenance of recombinant plasmids in <i>Salmonella</i> vaccine strains", <i>Gene</i> 94(1):29-35 (September 28, 1990)
	AR	*Garrity, GM, et al., "Genetic relationships among actinomycetes that produce the immunosuppressant macrolides FK506, FK520/FK523 and rapamycin", <i>J Ind Microbiol</i> 12:(1):42-7 (January, 1993)
VR	AS	Gerdes, K., et al., "Unique Type of Plasmid Maintenance Function: Postsegregational Killing of Plasmid-Free Cells," <i>Proc. Natl. Acad. Sci. USA</i> , 83:3116-3120 (May, 1986)
VR	AT	Giam, CZ, et al., "Characterization of a novel lipoprotein mutant in <i>Escherichia coli</i> ", <i>J Biol Chem</i> 259:(9):5601-5 (May 10, 1984)

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VR	AR	Goodell, EW, et al., "Uptake of cell wall peptides by <i>Salmonella typhimurium</i> and <i>Escherichia coli</i> ", <i>J Bacteriol</i> 169:(8):3861-5 (August, 1987)			
VR	AS	Gray, KM, et al., "Interchangeability and specificity of components from the quorum-sensing regulatory systems of <i>Vibrio fischeri</i> and <i>Pseudomonas aeruginosa</i> ", <i>J Bacteriol</i> 176:(10):3076-80 (May, 1994)			
VR	AT	Harkness, RE, et al., "In vitro peptidoglycan synthesis by envelopes from <i>Escherichia coli</i> tolM mutants is inhibited by colicin M", <i>J Bacteriol</i> 172:(1):498-500 (January, 1990)			
VR	AR	Hassan, J., et al., "Virulent <i>Salmonella Typhimurium</i> Induced Lymphocyte Depletion and Immunosuppression in Chickens", <i>Infect. Immun.</i> , 62:2027-2036 (1994)			
VR	AS	Hassan, J., et al., "Effect of Infective Dose on Humoral Immune Responses and Colonization in Chickens Experimentally Infected with <i>Salmonella Typhimurium</i> ", <i>Avian Diseases</i> , 37:19-26 (1993)			
VR	AT	Haziza, C, et al., "Identification of the promoter of the <i>asd</i> gene of <i>Escherichia coli</i> using in vitro fusion with the <i>lac operon</i> ", <i>Biochimie</i> 64:(3):227-30 (March, 1982)			
VR	AR	Haziza, C, et al., "Nucleotide sequence of the <i>asd</i> gene of <i>Escherichia coli</i> : absence of a typical attenuation signal", <i>EMBO J</i> 1(3):379-84 (1982)			
NR	AS	Henze, J, et al., "Influence of <i>femB</i> on methicillin resistance and peptidoglycan metabolism in <i>Staphylococcus aureus</i> ", <i>J Bacteriol</i> 175:(6):1612-20 (March, 1993)			
VR	AT	Ho, HT, et al., "UDP-N-acetylmuramyl-L-alanine functions as an activator in the regulation of the <i>Escherichia coli</i> glutamate racemase activity", <i>Biochemistry</i> 34(8):2464-70 (February 28, 1995)			
VR	AR	Hourdou, ML, et al., "Characterization of the sporulation-related gamma-D-glutamyl-(L)meso-diaminopimelic-acid-hydrolysing peptidase I of <i>Bacillus sphaericus</i> NCTC 9602 as a member of the metallo(zinc) carboxypeptidase A family. Modular design of the protein", <i>Biochem J</i> 292:(Pt 2):563-70 (June 1, 1993)			
VR	AS	Jaguszyn-Krynicka, EK, et al., "E. coli Heat-Labile Toxin Subunit B Fusions with <i>Streptococcus Sobrinus</i> Antines Expressed by <i>Salmonella Typhimurium</i> Oral Vaccine Strains: Importance of the Linker for Antigenicity and Biological Activities of the Hybrid Proteins", <i>Infect. Immun.</i> , 61:1004-1015 (1993)			
VR	AT	Knudsen and Karlstrom, "Development of Efficient Suicide Mechanisms for Biological Containment of Bacteria", <i>Applied and Environmental Microbiology</i> , 57(1):85-92 (January, 1991)			
VR	AR	Kusser, W, et al., "Involvement of the <i>relA</i> gene in the autolysis of <i>Escherichia coli</i> induced by inhibitors of peptidoglycan biosynthesis", <i>J Bacteriol</i> 164(2):861-5 (November, 1985)			
VR	AS	Latifi, A, et al., "Multiple homologues of LuxR and LuxI control expression of virulence determinants and secondary metabolites through quorum sensing in <i>Pseudomonas aeruginosa</i> PA01", <i>Mol Microbiol</i> 17:(2):333-43 (July, 1995)			
VR	AT	Maidhof, H, et al., "femA, which encodes a factor essential for expression of methicillin resistance, affects glycine content of peptidoglycan in methicillin-resistant and methicillin-susceptible <i>Staphylococcus aureus</i> strains", <i>J Bacteriol</i> 173(11):3507-13			
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VR	AR		Maruyama, IN, et al., "Determination of gene products and coding regions from the murE-murF region of <i>Escherichia coli</i> ", <i>J Bacteriol</i> 170(8):3786-8 (August, 1988)		
VR	AS		McCarter, LL, "MotY, a component of the sodium-type flagellar motor", <i>J Bacteriol</i> 176(14):4219-25 (July, 1994)		
VR	AT		McEwen, J, et al., "Synthesis of outer membrane proteins in cpxA cpxB mutants of <i>Escherichia coli</i> K-12", <i>J Bacteriol</i> 154(1):375-82 (April, 1983)		
	AR		Mengin-Lecreux, D, et al., "Incorporation of LL-diaminopimelic acid into peptidoglycan of <i>Escherichia coli</i> mutants lacking diaminopimelate epimerase encoded by dapF", <i>J Bacteriol</i> 170(5):2031-9 (May, 1988)		
VR	AS		Mengin-Lecrulx, D, et al., "Identification of the glmU gene encoding N-acetylglucosamine-1-phosphate uridylyltransferase in <i>Escherichia coli</i> ", <i>J Bacteriol</i> 175(19):6150-7 (October, 1993)		
VR	AT		Michalek, S., et al., "Antigen Delivery Systems: New Approaches to Mucosal Immunization," <i>Handbook of Mucosal Immunology</i> , 373-390 (Academic Press, Inc. 1994)		
VR	AR		Molin, S., "Conditional Suicide System for Containment of Bacteria and Plasmids," <i>Bio/Technology</i> , 5:1315-1318 (December, 1987)		
VR	AS		More, MI, et al., "Enzymatic synthesis of a quorum-sensing autoinducer through use of defined substrates", <i>Science</i> , 272(5268):1655-8 (June 14, 1996)		
VR	AT		Moyed, HS, et al., "hipA, a newly recognized gene of <i>Escherichia coli</i> K-12 that affects frequency of persistence after inhibition of murein synthesis", <i>J Bacteriol</i> 155(2):768-75 (August, 1983)		
VR	AR		Munthali, M., et al., "Restricting the Dispersal of Recombinant DNA: Design of a Contained Biological Catalyst," <i>Bio-Technology</i> , 14(2):189-191 (February, 1996)		
VR	AS		Nakayama, K., et al., "Construction of an asd + Expression-Cloning Vector: Stable Maintenance and High Level Expression of Cloned Genes in a <i>Salmonella</i> Vaccine Strain," <i>Bio/Technology</i> , 6:693-697 (June, 1988)		
	AT		*Perepel'chuk, Miu, et al., "[Cloning the asd and lysC genes from <i>Corynebacterium glutamicum</i>]", <i>Mol Gen Mikrobiol Virusol</i> (5-6):25-7 (May-June, 1992)		
VR	AR		Popham, DL, et al., "The <i>Bacillus subtilis</i> dacB gene, encoding penicillin-binding protein 5*, is part of a three-gene operon required for proper spore cortex synthesis and spore core dehydration", <i>J Bacteriol</i> 177(16):4721-9 (August, 1995)		
VR	AS		Ramos, J., et al., "Suicide Microbes on the Loose," <i>Bio/Technology</i> , 13:35-37 (January 1995)		
VR	AT		Richaud, C, et al., "Molecular cloning, characterization, and chromosomal localization of dapF, the <i>Escherichia coli</i> gene for diaminopimelate epimerase", <i>J Bacteriol</i> 169(4):1454-9 (April, 1987)		
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VR	AR		Richaud, C, et al., "Regulation of expression and nucleotide sequence of the <i>Escherichia coli</i> dapD gene", <i>J Biol Chem</i> 259:(23):14824-8 (December 10, 1984)		
VR	AS		Rodriguez-Herva, JJ, et al., "The <i>Pseudomonas putida</i> peptidoglycan-associated outer membrane lipoprotein is involved in maintenance of the integrity of the cell envelope", <i>J Bacteriol</i> 178(6):1699-706 (March, 1996)		
VR	AT		Roten, CA, et al., "Genes involved in meso-diaminopimelate synthesis in <i>Bacillus subtilis</i> : identification of the gene encoding aspartokinase I", <i>J Gen Microbiol</i> 137:(Pt 4):951-62 (April, 1991)		
VR	AR		Rowland, SL, et al., "The <i>Bacillus subtilis</i> cell-division 135-137 degrees region contains an essential orf with significant similarity to murB and a dispensable sbp gene", <i>Gene</i> 164:(1):113-6 (October 16, 1995)		
VR	AS		Sahm, H, et al., "Construction of L-lysine-, L-threonine-, and L-isoleucine- overproducing strains of <i>Corynebacterium glutamicum</i> ", <i>Ann N Y Acad Sci</i> 782:25-39 (May 15, 1996)		
VR	AT		Schaefer, AL, et al., "Generation of cell-to-cell signals in quorum sensing: acyl homoserine lactone synthase activity of a purified <i>Vibrio fischeri</i> LuxI protein", <i>Proc Natl Acad Sci USA</i> 93:(18):9505-9 (September 3, 1996)		
VR	AR		Schaefer, AL, et al., "Quorum sensing in <i>Vibrio fischeri</i> : probing autoinducer-LuxR interactions with autoinducer analogs", <i>J Bacteriol</i> 178:(10):2897-901 (May, 1996)		
VR	AS		Schodel, F., et al., "Development of Recombinant <i>Salmonellae</i> Expressing Hybrid Hepatitis B Virus Core Particles as Candidate Oral Vaccines," <i>Developments in Biological Standardization</i> , 82:151-158 Fred Brown, Ed. (Karger 1994)		
VR	AT		Schodel, F., "Hybrid Hepatitis B Virus core/Pre-S Proteins Synthesized in Avirulent <i>Salmonella Typhi</i> for Oral Vaccination," <i>Infect. Immun.</i> , 62:1669-1676 (1990)		
VR	AR		Schripsema, J, et al., "Bacteriocin small of <i>Rhizobium leguminosarum</i> belongs to the class of N-acyl-L-homoserine lactone molecules, known as autoinducers and as quorum sensing co-transcription factors", <i>J Bacteriol</i> 178:(2):366-71 (January, 1996)		
VR	AS		Schweder, T., et al., "An Expression Vector System Providing Plasmid stability and Conditional Suicide of Plasmid-Containing Cells," <i>Appl. Microbiol. Biotechnol.</i> , 38:91-93 (1992)		
VR	AT		Schweder, T., et al., "Escherichia Coli K12 <i>relA</i> Strains as Safe Hosts for Expression of Recombinant DNA," <i>Appl. Microbiol. Biotechnol.</i> , 42:718-723 (1995)		
VR	AR		Serebriiski, I, et al., "Multicopy suppression by <i>asd</i> gene and osmotic stress-dependent complementation by heterologous <i>proA</i> in <i>proA</i> mutants", <i>J Bacteriol</i> 177:(24):7255-60 (December, 1995)		
VR	AS		Sharma, UK, et al., "Expression and characterization of the <i>ponA</i> (ORF I)gene of <i>Haemophilus influenzae</i> : functional complementation in a heterologous system", <i>J Bacteriol</i> 177:(23):6745-60 (December, 1995)		
VR	AT		Shimkets, LJ, et al., "Induction of coordinated movement of <i>Myxococcus xanthus</i> cells", <i>J Bacteriol</i> 152:(1):451-61 (October, 1982)		
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VR	AR	Tinge and Curtiss, "Conservation of the <i>Salmonella Typhimurium</i> Virulence Plasmid Maintenance Regions Among <i>Salmonella</i> Serovars as a Basis for Plasmid Curing," <i>Infect. Immun.</i> 58:3084-3092 (1990)			
VR	AS	Tinge and Curtiss, "Isolation of the Replication and Partitioning Regions of the <i>Salmonella Typhimurium</i> Virulence Plasmid and Stabilization of Heterologous Replicons," <i>Journal of Bacteriology</i> 172:5266-5277 (1990)			
VR	AT	Vazquez, M., et al., "Controlled Expression of Click Beetle Luciferase Using a Bacterial Operator-Repressor System," <i>FEMS Microbiology Letters</i> , 121:11-18 (1994)			
VR	AR	Wachi, M., et al., "Sequence of the downstream flanking region of the shape-determining genes <i>mreBCD</i> of <i>Escherichia coli</i> ," <i>Gene</i> 106:(1):135-6 (September 30, 1991)			
VR	AS	Walsh, CT, "Enzymes in the D-alanine branch of bacterial cell wall peptidoglycan assembly", <i>J Biol Chem</i> 264(5):2393-6 (February 15, 1989)			
VR	AT	Walsh, CT, "Vancomycin resistance: decoding the molecular logic", <i>Science</i> 261:(5119):308-9 (July 16, 1993)			
VR	AR	Yeh, P., et al., "General organization of the genes specifically involved in the diaminopimelate-lysine biosynthetic pathway of <i>Corynebacterium glutamicum</i> ", <i>Mol Gen Genet</i> 212:(1):105-11 (April, 1988)			
JR	AS	Young, K., et al., "The <i>envA</i> permeability/cell division gene of <i>Escherichia coli</i> encodes the second enzyme of lipid A biosynthesis, UDP-3-O-(R-3-hydroxymyristoyl)-N-acetylglucosamine deacetylase", <i>J Biol Chem</i> 270:(51):30384-91 (December 22, 1995)			
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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Inc.)

VR	AR	Schweider, et al., Appl. Microbiol. Biotechnol. 39(1): 81-93 (1992)	Duplicate
VR	AS	Munihalli, et al., BioTechnology 14(2), 169-191 (1996)	Duplicate
VR	AT	Vazquez, et al., FEMS Microbiol. Lett. 121, 11-18 (1994)	Duplicate
EXAMINER	V. Ray	DATE CONSIDERED	7/98

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FORM PTO-1449U.S.		DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO.	SERIAL NO.
				MEGAN 100 CIP	08/761,769
MATERIAL INFORMATION SHEET					
(Use several sheets if necessary)					
APPLICANT		Roy Curtis III and Steven A. Ting			
FILING DATE		December 6, 1996			
GROUP					

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	AA	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA						
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FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL							
	AM							
	AN							
	AO							
	AP							

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Inc.)

VR	AR		Contreras, et al., Appl. Microbiol. Biotechnol. 57(5), 1504-1508 (May 1991) <i>Duplicate</i>
	AS		
	AT		
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U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
VR	AA	4,190,495	02/26/80	Curtiss	435	172	
VR	AB	4,968,619	11/06/90	Curtiss	435	252.8	
	AC	5,190,931	03/02/93	Inouye	435	91	
	AD						
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FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
	AL	0 381 706 B1	04/26/95	EP	—	—	YES NO
	AM						
	AN						
	AO						
	AP						
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
VR	AR	Barrett, <u>Textbook of Immunology</u> , Fourth Edition (C. V. Mosby Co., St. Louis, MO, 1983)					Table of Contents
VR	AS	Bienkowska-Szewczyk et al., "The R Gene Product Of Bacteriophage λ, Mol. Gen. Genet., 184:111-114 (1981)					
VR	AT	Bochner et al., "Positive Selection For Loss Of Tetracycline Resistance", J. Bacteriol., 143:926 (1980)					
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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)				
VR	AR	Cárdenas and Clements, "Oral Immunization Using Live Attenuated <i>Salmonella</i> spp. as Carriers of Foreign Antigens", <i>Clinical Micro. Rev.</i> , 5(3):328-342 (1992)		
VR	AS	<i>Duplicate</i> Cardinaud and Curtiss, "Nucleotide Sequence Of The <i>asd</i> Gene Of <i>Streptococcus mutans</i> ", <i>J. Bio. Chem.</i> , 262:3344-3353 (1987)		
	AT	Chatfield et al., "Construction Of A Genetically Defined <i>Salmonella typhi</i> Mutant For The Engineering Of A Candidate Oral Typhoid-Tetanus Vaccine", <i>Vaccine</i> , 10:53-60 (1992)		
	AR	Chatfield et al., "The Development Of Oral Vaccines Based On Live Attenuated <i>Salmonella</i> Strains", <i>FEMS Immunol. Med. Microbiol.</i> 7:1-7 (1993)		
VR	AS	Christie, et al., "Synthetic Sites For Transcription Termination And A Functional comparison With Tryptophan Operon Termination Sites <i>In Vitro</i> ", <i>Proc. Natl. Acad. Sci. USA</i> , 78:4180-4184 (1981)		
	AT	Clements, "Use Of Attenuated Mutants Of <i>Salmonella</i> As Carriers For Delivery Of Heterologous Antigens To The Sacratory Immune System", <i>Pathol. Immunopathol. Res.</i> 6:137-146 (1987)		
VR	AR	Cornelis, "Yersiniae, Finely Tuned Pathogens", <i>Molecular Biology of Bacterial Infections</i> (Cambridge University Press, Cambridge, 1992)		
VR	AS	Curtiss, "Engineering Organisms For Safety: What Is Necessary", <i>The Release Of Genetically-Engineered Micro-Organisms</i> , M. Sussman, et al. editor, Academic Press, 7-20 (1988)		
VR	AT	Curtiss, "Genetic Manipulation Of Microorganisms: Potential Benefits And Biohazards", <i>Ann. Rev.</i> , 30:507-533 (1976)		
VR	AR	Curtiss et al., "Research On Bacterial Conjugation With Mini-Cells And Minicell-Producing <i>E. Coli</i> Strains", <i>Microbial Drug Resistance</i> , 3:169-183 (1982)		
VR	AS	Curtiss and Kelly, "Salmonell Typhimurium Deletion Mutants Lacking Adenylate Cyclase And Cyclic AMP Receptor Protein Are Avirulent And Immunogenic", <i>Infect. Imm.</i> , 55:3035-3043 (1987)		
VR	AT	Curtiss et al., "Chromosomal Aberrations Associated With Mutations To Bacteriophage Resistance In <i>Escherichia Coli</i> ", <i>J. Bacteriol.</i> , 89:28-40 (1965)		
	AR	Curtiss et al., "Avirulent <i>Salmonella</i> Expressing Virulence Antigens From Other Pathogens For Use As Orally Administered Vaccines", <i>Virulence Mechanisms Of Bacterial Pathogens</i> , (Roth, American Society for Microbiology, Washington, D.C., 1988) pages 311-328		
VR	AS	Curtiss et al., "Recombinant <i>Salmonella</i> Vectors In Vaccine Development", <i>Dev. Biol. Stand.</i> , 82:23-33 (1994)		
VR	AT	Curtiss et al., "Stable Recombinant Avirulent <i>Salmonella</i> Vaccine Strains", <i>Adv. Exp. Med. Biol.</i> , 251:33-47 (1989)		
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			APPLICANT Roy Curtiss, III and Steven A. Tinge	
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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)				
	AR	Curtiss, "Attenuated <i>Salmonella</i> Strains as Live Vectors for The Expression of Foreign Antigens", <i>New Generation Vaccines</i> (Woodrow and Levine, eds., Marcel Dekker, New York, 1990) pages 161-188		
	AS	Doggett and Curtiss, "Delivery Of Antigens By Recombinant Avirulent <i>Salmonella</i> Strains", <i>Adv. Exp. Med. Biol.</i> , 327:165-73 (1992)		
VR	AT	Dorman et al., "Characterization Of Porin And <i>ompR</i> Mutants Of A Virulent Strain Of <i>Salmonella typhimurium</i> : <i>ompR</i> Mutants Are Attenuated In Vivo", <i>Infect. Immun.</i> , 57:2136-40 (1989)		
VR	AR	Dougan et al., "Live Oral <i>Salmonella</i> Vaccines: Potential Use Of Attenuated Strains As Carriers Of Heterologous Antigens To The Immune System", <i>Parasite Immun.</i> , 9:151-160 (1987)		
VR	AS	Dul et al., "Genetic Mapping Of A Mutant Defective In D, L-Alanine Racemase In <i>Bacillus Subtilis</i> 168", <i>J. Bacteriol.</i> , 115:1212 (1973)		
VR	AT	Ferrari et al., "Isolation Of An Alanine Racemase Gene From <i>Bacillus Subtilis</i> And Its Use For Plasmid Maintenance In <i>B. Subtilis</i> ", <i>Bio/Technology</i> , 3:1003-1007 (1985)		
VR	AR	Gait ed., "Oligonucleotide Synthesis", A Practical Approach, (1984) (cont'd 5)		
VR	AS	Galan and Curtiss, "Virulence AND Vaccine Potential Of <i>phoP</i> Mutants Of <i>Salmonella typhimurium</i> ", <i>Microb. Pathogen.</i> , 6:433-443 (1989)		
VR	AT	Gentschey et al., "Salmonella Strain Secreting Active Listeriolysin Changes Its Intracellular Localization", <i>Infect. Immun.</i> , 63(10):4202-4205 (1995)		
VR	AR	Gerdes et al., "Mechanism Of Postsegregational Killing By the <i>hok</i> Gene Product Of The <i>parB</i> System Of Plasmid R1 And Its Homology With The <i>reF</i> Gene Product Of The <i>E. coli</i> <i>reB</i> Operon", <i>EMBO J.</i> , 5:2023-2029 (1986)		
VR	AS	Gerdes et al., "The <i>hok</i> Killer Gene Family In Gram-Negative Bacteria", <i>New Biol.</i> , 2:946-956 (1990)		
VR	AT	Gerdes et al., "Unique Type Of Plasmid Maintenance Function: Postsegregational Killing Of Plasmid-Free Cells", <i>Proc. Natl. Acad. Sci. USA</i> , 83:3116-3120 (1986)		
VR	AR	Germanier and Furer, "Immunity In Experimental Salmonellosis", <i>Infect. Immun.</i> , 4:663-73 (1971)		
VR	AS	Germanier and Furer, "Isolation And Characterization Of <i>Ge/F</i> Mutant Ty 21a Of <i>Salmonella typhi</i> : A Candidate Strain For A Live, Oral Typhoid Vaccine", <i>J. Infect. Dis.</i> , 131:553-8 (1975)		
VR	AT	Giladi et al., "Integration Host Factor Stimulates The Phage Lambda <i>pl</i> Promoter", <i>J. Mol. Biol.</i> , 231:109-121 (1990)		
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FORM PTO-144B MATERIAL INFORMATION STATEMENT <small>(Use several sheets if necessary)</small>			U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. MEGAN 100 CIP	SERIAL NO. 08/761,769
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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)					
VR	AR	Glover, ed., "DNA Cloning", A Practical Approach, Volumes I and II (1985) (contents)			
VR	AS	<u>Guzman et al., "Tight Regulation, Modulation, And High-Level Expression by vectors Containing The Arabinose PBAD Promoter"</u> <u>J. Bacteriol.</u> , 177(14):4121-4130 (1995)			
VR	AT	<u>Hames and Higgins, eds., "Nucleic Acid Hybridization", A Practical Approach</u> (1984) (contents)			
VR	AR	<u>Hecker et al., "Role Of ralA Mutation In The Survival Of Amino Acid-Starved <i>Escherichia coli</i>"</u> , <u>Arch Microbiol.</u> , 143:400-402 (1986)			
VR	AS	<u>Helander et al., "Preferential Synthesis Of Heptaacyl Lipopolysaccharide By The esc Permeability Mutant Of <i>Salmonella typhimurium</i>"</u> , <u>Eur. J. Biochem.</u> , 204:1101-1106 (1992)			
VR	AT	<u>Hess et al., "Superior Efficacy Of Secreted Over Somatic Antigen Display In Recombinant <i>Salmonella</i> Vaccine Induced Protection Against Listeriosis"</u> , <u>Proc. Natl. Acad. Sci. USA</u> , 93:1458-1463 (1996)			
VR	AR	<u>Hirvas et al., "Identification And Sequence Analysis Of The Gene Mutated In The Conditionally Lethal Outer Membrane Permeability Mutant SS-C Of <i>Salmonella typhimurium</i>"</u> , <u>EMBO J.</u> , 10(4):1017-1023 (1991)			
VR	AS	<u>Hoe et al., "Temperature Sensing In <i>Yersinia pestis</i>: Regulation Of <i>vapE</i> Transcription By <i>lcrF</i>"</u> , <u>J. Bacteriol.</u> , 174:4275-4286 (1992)			
	AT	<u>Hone et al., "A <i>galE</i>/<i>viag</i> (Vi Antigen-Negative) Mutant Of <i>Salmonella typhi</i> Tv2 Retains Virulence In Humans"</u> , <u>Infect. Immun.</u> , 56:1326-1333 (1988)			
VR	AR	<u>Hromacki et al., "Temperature Regulation Of <i>Shigella</i> Virulence: Identification Of The Repressor Gene <i>virR</i>, An Analogue Of <i>hns</i>, And Partial Complementation By Tyrosyl Transfer RNA (tRNA1Tyr)"</u> , <u>Mol. Micro.</u> , 6:2113-2124 (1991)			
VR	AS	<u>Jagusztyn-Krynicka et al., "Expression Of <i>Streptococcus mutans</i> Aspartate-Semialdehyde Dehydrogenase Gene Cloned Into Plasmid pBR322"</u> , <u>J. Gen. Microbiol.</u> , 128:1135-1145 (1982)			
VR	AT	<u>Johnson et al., "The Role Of A Stress-Response Protein In <i>Salmonella typhimurium</i> Virulence"</u> , <u>Mol. Microbiol.</u> , 5:401-407 (1991)			
VR	AR	<u>Jones et al., "Induction Of Proteins In Response To Low Temperature In <i>Escherichia coli</i>"</u> , <u>J. Bacteriol.</u> , 169:2092-2095 (1987)			
VR	AS	<u>Kaniga et al., "A Wide-Host Suicide Vector For Improving Reverse Genetics In Gram-Negative Bacteria: Inactivation Of The <i>blaA</i> Gene Of <i>Yersinia enterocolitica</i>"</u> , <u>Gene</u> , 109:137-141 (1991)			
	AT	<u>Kelly et al., "Characterization And Protective Properties Of Attenuated Mutants Of <i>Salmonella choleraesuis</i>"</u> , <u>Infect. Immun.</u> , 60:4881-4890 (1992)			
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VR	AR	Knudsen and Karlström, "Development of Efficient Suicide Mechanisms for Biological Containment of Bacteria", <u>Applied and Environmental Microbiology</u> , 57(1):85-92 (1991)				
	AS	Kushner, "Construction Of Versatile Low-Copy-Number Vectors For Cloning, Sequencing And Gene Expression In Escherichia coli", <u>Gene</u> , 100:195-199 (1990)				
VR	AT	Lambert de Rouvroit et al., "Role Of The Transcriptional Activator VirF And Temperature In The Expression Of The pYV Plasmid Genes Of Yersinia enterocolitica", <u>Molec. Microbiol.</u> , 6:395-409 (1992)				
VR	AR	Lieb, "Studies Of Heat-Inducible Lambda Bacteriophage", <u>J. Mol. Biol.</u> , 16:149-163 (1966)				
VR	AS	Luatenberg et al., "Temperature-Sensitive Mutant Of Escherichia coli K-12 With An Impaired D-Alanine: D-Alanine Ligase", <u>J. Bacteriol.</u> , 113:96-104 (1973)				
VR	AT	McGhee and Mestecky, <u>The Secretory Immune System</u> , Ann. N.Y. Acad. Sci., Volume 409 (1983) (Contents)				
VR	AR	Miller, <u>Experiments In Molecular Genetics</u> (Cold Spring Harbor Laboratory, 1972)				
	AS	Miller et al., "A Two-Component Regulatory System (phoP phoQ) Controls <u>Salmonella typhimurium</u> Virulence", <u>Proc. Natl. Acad. Sci. USA</u> , 86:5054-8 (1989)				
VR	AT	Miller and Mekalanos, "A Novel Suicide Vector And Its Use In Construction Of Insertion Mutations: Osmoregulation Of Outer Membrane Proteins And Virulence Determinants In <u>Vibrio cholerae</u> Requires <u>toxR</u> ", <u>J. Bacteriol.</u> , 170:2575-2583 (1988)				
VR	AR	Miller, <u>A Short Course In Bacterial Genetics</u> (Cold Spring Harbor Laboratory, 1992) (Contents)				
VR	AS	Miyakawa et al., "Cell Wall Peptidoglycan Mutants Of Escherichia coli K-12: Existence Of Two Clusters Of Genes, <u>mra</u> And <u>mrb</u> For Cell Wall Peptidoglycan Biosynthesis", <u>J. Bacteriol.</u> , 112:950 (1972)				
VR	AT	Molin et al., "Suicidal Genetic Elements And Their Use In Biological Containment Of Bacteria", <u>Annual Review of Microbiology</u> , 47:139-166 (1993)				
VR	AR	Molin and Kjelleberg, "Release of Engineered Microorganisms: Biological Containment and Improved Predictability for Risk Assessment", <u>AMBIO</u> , 22(4):242-245 (1993)				
VR	AS	<u>Duplicate</u> <u>Molin et al., Conditional suicide system for containment of bacteria and plasmids</u> , <u>Bio/Technology</u> , 5:1315-1318 (1987)				
VR	AT	Munthali et al., "Use Of Colicin E3 For Biological Containment Of Microorganisms", <u>App. Environ. Microbiol.</u> , 62(5):1805-1807 (1996)				
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VR	AR		Neidhardt et al., "The Genetics And Regulation Of Heat-Shock Proteins", <i>Annu. Rev. Genet.</i> , 18:295-329 (1984)		
VR	AS		Nyström, "Role Of Guanosine Tetraphosphate In Gene Expression And The Survival Of Glucose Or Seryl-tRNA Starved Cells Of <i>Escherichia coli</i> K12", <i>Mol. Gen. Genet.</i> , 245:355-362 (1994)		
VR	AT		O'Brian, ed., <i>Genetic Maps</i> (Cold Spring Harbor Laboratory, 1987)		
VR	AR		O'Connor and Timmis, "Highly Repressible Expression System for Cloning Genes That Specify Potentially Toxic Proteins", <i>J. Bacteriol.</i> , 169:4457-4462 (1987)		
VR	AS		Orba et al., <i>Handbook of Mucosal Immunology</i> (Academic Press, San Diego, CA, 1994)		
VR	AT		Perbal, <i>A Practical Guide To Molecular Cloning</i> , A Wiley-Interscience Publication (1984)		
VR	AR		Poteete et al., "Operator Sequences Of Bacteriophages P22 And 21", <i>J. Mol. Biol.</i> , 137:81-91 (1980)		
VR	AS		Poulsen et al., "The <i>clf</i> Gene From <i>Escherichia coli</i> Is Regulated At The Level Of Translation", <i>Mol. Microbiol.</i> , 5:1639-1648 (1991)		
VR	AT		Coronel et al., "Identification And Characterization Of Novel Low-Temperature-inducible Promoters Of <i>Escherichia coli</i> ", <i>J. Bacteriol.</i> , 174:7902-7909 (1992)		
VR	AR		Ramos et al., "Suicide Microbes on the Loose", <i>Bio/Technology</i> , 13:35-37 (1995)		
VR	AS		Reader and Siminovitch, "Lysis Defective Mutants Of Bacteriophage Lambda: On The Role Of The S Function In Lysis", <i>Virology</i> , 43:623-637 (1971)		
VR	AT		Reddy, et al., "Hyperexpression And Purification Of <i>Escherichia Coli</i> Adenylate Cyclase Using A Vector Designed For Expression Of Lethal Gene Products", <i>Nucleic Acids Res.</i> , 17(24):10473-10489 (1989)		
VR	AR		Remaut, et al., "Plasmid Vectors For High-Efficiency Expression Controlled By The <i>PL</i> Promoter Of Coliphage Lambda", <i>Gene</i> , 15:81-93 (1981)		
VR	AS		Remaut, et al., "Improved Plasmid Vectors With A Thermoinducible Expression And Temperature-Regulated Runaway Replication", <i>Gene</i> , 22:103-113 (1983)		
VR	AT		Rennell and Poteete, "Phage P22 Lysis Genes: Nucleotide Sequences and Functional Relationships with T4 and <i>λ</i> Genes", <i>Virology</i> , 143:280-289 (1985)		
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VR	AR	Sambrook et al., Molecular Cloning: A Laboratory Manual (Cold Spring Harbor Laboratory, 1989)			
VR	AS	Sanger et al., "Nucleotide Sequence Of Bacteriophage λ DNA", <i>J. Mol. Biol.</i> , 162:729-773 (1982)			
VR	AT	Sauer et al., "Primary Structure Of The Phage P22 Repressor And Its Gene c2", <i>Biochem.</i> , 20:3591-3598 (1981)			
	AR	Schödel, "Oral Vaccination Using Recombinant Bacteria", <i>Semin. Immunol.</i> , 2:341-349 (1990)			
	AS	Schödel, "Recombinant Avirulent Salmonellas as Oral Vaccine Carriers", <i>Infection</i> , 20(1):1-8 (1992)			
VR	AT	Schweder et al., "Escherichia coli K12 <i>relA</i> Strains As Safe Hosts For Expression Of Recombinant DNA", <i>Appl. Microbiol. Biotechnol.</i> , 42:718-723 (1995)			
	AR	Sigwart et al., "Effect Of A <i>purA</i> Mutation On Efficacy Of <i>Salmonella</i> Live-Vaccine Vectors", <i>Infection and Immunity</i> , 57(6):1858-1861 (1989)			
VR	AS	Sites et al., <i>Basic and Clinical Immunology</i> (Lange Medical Books, Los Altos, CA, 1994)			
VR	AT	Sizemore et al., "Attenuated <i>Shigella</i> As A DNA Delivery Vehicle For DNA-Mediated Immunization", <i>Science</i> , 270:299-302 (1995)			
VR	AR	Spector and Cubitt, "Starvation-Inducible Loci Of <i>Salmonella typhimurium</i> : Regulation And Roles In Starvation-Survival", <i>Mol. Micro.</i> , 6:1467-1476 (1992)			
VR	AS	Studier et al., "Gene Expression Technology", <i>Methods Enzymol.</i> , 185:60-89 (1990)			
	AT	Tacket et al., "Comparison Of The Safety And Immunogenicity Of <i>Acva Acvp</i> <i>Salmonella typhi</i> Strains In Adult Volunteers", <i>Infect. Immun.</i> , 60:536-541 (1992)			
VR	AR	Tanabe et al., "Identification Of The Promoter Region Of The <i>Escherichia coli</i> Major Cold Shock Gene, <i>cspA</i> ", <i>J. Bacteriol.</i> , 174:3867-3873 (1992)			
VR	AS	Tao and Blumenthal, "Sequence And Characterization Of <i>pvuIIIR</i> , The <i>PvuII</i> Endonuclease Gene, And Of <i>pvuIIC</i> , Its Regulatory Gene", <i>J. Bacteriol.</i> , 174(10):3395-3398 (1992)			
VR	AT	Temple et al., "Survival Of Two Enterobacteria In Feces Buried In Soil Under Field Conditions", <i>Appl. Environ. Microbiol.</i> , 40:794-797 (1980)			
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VR	AR	Umberger, "Amino Acid Biosynthesis And Its Regulation", Ann. Rev. Biochem., 47:533 (1978)			
VR	AS	Vasina and Baneux, "Recombinant Protein Expression At Low Temperatures Under The Transcriptional Control Of The Major Escherichia coli Cold Shock Promoter <i>cspA</i> ", Appl. Environ. Micro., 62(4):1444-1447 (1996)			
	AT	Vuorio and Vaara, "Mutants Carrying Conditionally Lethal Mutations In Outer Membrane Genes <i>omsA</i> And <i>firA</i> (ssc) Are Phenotypically Similar, And <i>omsA</i> Is Allelic To <i>firA</i> ", J. Bacteriol., 174(22):7090-7097 (1992)			
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